

[54] **ELECTROPHORETIC INFORMATION DISPLAY (EPID) APPARATUS EMPLOYING GREY SCALE CAPABILITY**

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## [57] ABSTRACT

Various techniques and apparatus for grey scale operation for an electrophoretic display panel (EPID) are provided. The apparatus includes circuitry with a timing generator which produces a plurality of different time duration output waveforms which are applied to the X and Y drivers associated with the EPID. In this manner by applying a set of voltages for a given short time interval, a display is provided which results in the incomplete removal of pigment from an associated selected pixel. Hence, that pixel appears darker than surrounding pixels but not as dark as the pure dye solution as associated with the display. The amount of pigment removed and hence the darkness of each pixel is a function of the time duration during which appropriate voltages are applied to the rows and columns of the EPID. In this manner the timing generator can cause different pixels as displayed to have different darknesses or grey scale values by varying the time during which the voltage is applied to the display.

20 Claims, 5 Drawing Sheets

